The impact of financial leverage operating cash flow and size of company on the dividend policy (case study of Iran)

Dr. Seyed Abbas Hashemi
Faculty of accounting and finance, Isfahan University, Iran

Fatemeh Zahra Kashani Zadeh*
Msc Financial Management Student in University of Isfahan, Iran

*corresponding author

Abstract
This paper aims to investigate the impact of financial leverage, operating cash flow and company size on dividend policy in accepted companies of Tehran Stock Exchange. Three hypotheses have been proposed in this research. The impact of financial leverage on dividend policy in the first hypothesis the impact of operating cash flow dividend policy in the second hypothesis and the impact of company size on dividends policy in the third hypothesis have been tested multi-variable regression model has been used for analyzing the data and testing the research hypothesis statistical society includes accepted companies in Tehran stock exchange during 2003-2010. Systematic remove has been used for determining the statistical sample , and finally 74 companies has been selected and investigated. Results of the analyzing the data proved all the three hypothesis by using the panel data in other words , there is a meaning full and negative relation between financial leverage and dividend policy also there is a meaning full and positive relation between operating cash flow , size of company and dividend policy.

Keywords: dividend policy , financial leverage , operating cash flow , company size

1.Introduction
Dividend is a considerable theme in financial research and remains as a controversial problem in the financial management. Dividend policy of companies is as a riddle for financial researchers and is important for two reason: on the one hand, it is an influential factor for company's investment and it can reduce the internal resources and increase need to external financial resources, on the other hand, most of shareholders want cash dividend policy. Because of that, in order to maximize well of shareholders, mangers should establish a balance between different interests of shareholders and profitable opportunities of investment. So, the decisions of dividend policy made by managers are very important. Recognizing the influential factors on dividend policy has been the subject of many researches. The results of these researches show the important of dividend for company's destination although there are many obscurities in this field, which necessitate more researches so the main goal of this research is investigating the impact of financial leverage, operating cash flow and size of company on dividend policy in Tehran Stock Exchange.

2.Literature review
Asif and others (2010), investing ate the impact of financial leverage output profit of share land profitable change on dividend policy the results of this research show the negative impact of financial leverage on dividend policy. In other words, dividend decreases increasing the debts of company and the profitable changes don't affect the dividend policy and profit output of shares affects dividend policy positively. Al-kowari (2009), scrutinizes the impact of state possessions, cash free flow, company size growth ration. Opportunities of growth business risks and profitability of company on dividend policy during 1999-2003. The results of his research show the positive relationship between state possession company size
profitability and dividend policy and also a negative relationship between them and leverage ratio. He also said that companies pay profits for decreasing the costs of delegacies and legal supporting of foreign share holders.

Ling and others (2008), in a research on 100 accepted companies in Malaysian stock exchange show that profitability of company's growth, leverage ration, size of company dispersion of shares are the determining factors in dividend policy. They found that profitable and low-risk companies have more dividend policy than other companies.

Other researches in this field include musa (2009), Aniland Kapoor (2008), Nicholas Eriotis (2008), Almalkawi (2007), Amidu and Abor (2006), Kubo and Saito (2006) and Kawalwiki and others (2007). Olad Hossein (2010) investigated the impact of the composition of the director board. Output of assets. Cash free flow of each share. Business risk, size of company growth opportunities and debt level on dividend proportion and probability of cash dividend payout. Statical method sused in this paper involve tubit regression model and Lagit regression model by synthetic data method. The results show that size of company, opportunities of growth and debt level have an meaningful impact on the divided and probability of cash profit payout and other variables don't have such impact.

Alinaghyan (2010), investigated the un confidency about cash flow stage of company age antagonism of delegacy opportunities of investment profitability of company size of company and company situation considering the cash flow as an influential factor on dividend policy results show that among all the factors, unconfidency about cash flow stage of company age opportunities of investment and company profitability are influential and other factors are not affective.

Khoshtinat and Hajian (2009) investigated the reactions of investors in the time of declaring the increasing dividend by company. Because investor's reactions are reflected as the purchase, selling and keeping share decisions and finally the size of stock market increasing amount of stock exchange for the different temporal periods after declaring the increasing of dividend policy of accepted companies in Tehran stock exchange were investigated. During the 2000-2005. In the first hypothesis impact of increasing the dividend on the amount of transaction by using the method of comparing the mean with fixed quantity in the second hypothesis relation of increasing the dividend percentage and changes of transaction quantity percentage were investigated by using co-ordination test and regression. Results of research show that increasing the dividend affects quantity of share exchange results also show that investor's reaction to increasing dividend policy news is a short period reaction.

Other researches which are relevant to this subject in Iran involve Hashemi and Akhlaghi(2010), Purheidary and Khaksari (2008), Etemadi and Chalaki (2005), Khajawi and Nazemi (2005), Bahram Far and Mehrani (2005), Sagafi and Kordestani (2004), Khadem (2001), Shahmoradi (2001).

3. Hypothesizes of research

This research involves three hypothesis:

First hypothesis financial leverage can affect the dividend policy of accepted companies in Tehran Stock Exchange most of the researches have shown the negative impact of financial leverage on dividend policy (Johnson and others 1992, Almalkawi 2005, ...). These researches have shown that companies with high leverage keep the internal cash flow rather than divide it between share holders and support the creditors. This negative relationship is because high leverage companies undergo more financial cost for providing finance; company in such situation needs to keep its internal financial resources for accomplishing its task rather than distributing it's cash as profit between share holders. Because of that, higher financial leverage companies have higher transactional costs and have a weaker stance for high cash dividend payout, to avoid the costs of providing foreign finance. Besides that, Mulah and others (2001), examined new emergent market and found a positive relation between financial leverage and debt which increases the transactional costs (Al Kuwari, 2009).

Second hypothesis operating cash flow affects the dividend policy of accepted companies in Tehran Stock Exchange. Cash flow is one of the affective factors on dividend policy. Ali and others (1993), Amidu and Abor (2006) and Kapoor (2008) showed the positive relation between cash flow and dividend policy ratio. Less liquidity means less dividend because of shortage of cash. Ali and others (1993) said that dividend payout depends on more cash flow which reflects the potentiality of company for dividend pay out they claimed that current incomes can't reflect the company potentiality for dividend payout (Gill and others 2010).
Third hypothesis size of company can affect the dividend policy of accepted companies in Tehran stock exchange numerous researches on the impact of size on dividend policy have been done(Edi and fort,1988;Johnson and other,1992; reding,1997 and fama,French,2000).

Show that big companies distribute more quantity of their pure profit than small companies. Ludwid and others(1985) modified the Rozef model by adding size of company as additional variable they found that big companies increase their cash payout in order to decrease the costs of delegacy. Their findings support the Johnson and makling view which believes in a relation between legacy costs and company size.

Other research show a positive relation between company size and dividend policy. For example, Holder and others (1998) showed that big companies have better capital market and it is easier to increase cash for decreasing costs and it enables them to pay share holders more dividend. This proves positive relation between company size and dividend policy (Al-kuwari, 2009).

4.Methodology of research
This research is a kind of practical research and is a descriptive correlation research. Statistical society of this research is all the accepted companies in Tehran Stock Exchange systemic remove has been used for selecting the sample and the companies belong to the sample involves all the companies of statistical society of this research which have the following characteristics:

1: they should have been accepted in Tehran stock exchange since 2003.
2: their shares should be transacted in stock at least each month during doing the research.
3: companies which their financial year end is to 29 March.
4: companies which have not changed their financial year.
5: companies which are not deteriorated during the research and they should have dividend.

74 companies have been selected by considering the cited conditions. Library method has been used for collecting the data documentary analysis has been used we extracted research data from C.D.S of pictorial and statistical archives of Tehran stock exchange organization Tadbir pardaz software and other relevant sites processing and analyzing the collected data has been accomplished by Eviews software model and variables of research.

Two kinds of independent and dependent variable have been used in this research. In dependent variables of this research include financial leverage operating cash flow and company size depended variable in this research is dividend policy. The model used for testing the hypothesis is based on Asif and other 2010 it is in terms of the equation1:

\[ \text{Equation}(1): \text{LnDI}_{it} = \alpha + \beta_1 \text{LR}_{it} + \beta_2 \text{CFO}_{it} + \beta_3 \text{size}_{it} + \epsilon_{it} \]

in this equation:

\( \text{LnDI}_{it} \) = dependent variable and natural logarithm dividend policy proportion to sum of incomes of company i in time t independent variables:

\( \text{LR}_{it} \) = leverage proportion which equals sum of debts proportion to sum of incomes.

\( \text{CFO}_{it} \) = cash operating flow of company i in time t.

\( \text{size}_{it} \) = company size which equals natural logarithm of sum of incomes of company i in time t.

\( \epsilon_{it} \) = error quantity

\( \alpha, \beta_1, \beta_2, \beta_3 \) = co-efficient of independent variables descriptive analysis

A total scheme of data involving minimum, maximum mean standard deviation of variables of research has been presented in table I:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Abbreviation</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Median</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividend policy</td>
<td>DIV</td>
<td>0.000000</td>
<td>1.364300</td>
<td>0.131930</td>
<td>0.100700</td>
<td>0.136360</td>
</tr>
<tr>
<td>Financial leverage</td>
<td>FL</td>
<td>0.000000</td>
<td>4.540500</td>
<td>0.691101</td>
<td>0.686350</td>
<td>0.315756</td>
</tr>
<tr>
<td>Operating cash flow</td>
<td>CFO</td>
<td>-0.336600</td>
<td>2.508200</td>
<td>0.178306</td>
<td>0.146150</td>
<td>0.238198</td>
</tr>
</tbody>
</table>
The main central indicator is mean, which shows the balance point and gravity center of distribution and it is a good indicator for showing the centrality of data. For example the mean for financial leverage variable is 0.691101 which shows that most of data are concentrated around this point. Median is another central indicator which shows social condition. As is evident in table I median of financial leverage variable is 0.686350 which shows that half of data is less than quantity and other half of data is more than this quantity.

Dispersion parameters is a criterion for determining the dispersion of each other or their dispersion proportion to mean standard deviance is one of the most important dispersion parameters the quantity of this parameter for financial leverage variable equals 0.315756.

Results also show that size of company has a most dispersion quantity and dividend policy has a least dispersion quantity.

5. Testing the hypothesis of the research

Collection of synthetic data has been used for analysing the model in this research F-Limer test has been used for choosing between panel data method and fusional data method. If measured quantity for F statistic is bigger than F table, or in other words obtained probability quantity is smaller than 0.05, panel methodology will be used and if it is not so, fusional data methodology for measuring the model will be used. Then if the results of F-limer test. Indicate using the panel data methodology, in order to choose between fixed effects and random effects methods for measuring model, Hasman test will be used if the obtained probability quantity for this test is smaller than 0.05, fixed effects methodology will be used, an if it in not so, random effects methodology for measuring will be used.

After investigating the descriptive statistics of data and making sure about running well the pre-requirements of model, hypothesis of research should be tested.

Firstly in order to test the hypothesis fitting methodology of model is determined for determining kind of fitting of model F-limer test is done for choosing between panel data method and fusional data method also Hasman test is use in order to choose between fixed effects methodology and random effects methodology. After doing differences of variance test, final evaluating will be accomplished by using generalized least squares in the case of difference.

Brief results of F-limer test has been shown in table II as the results show, probability quantity for F-limer is 0.000, which is less than 0.05 or in other words measured quantity for F statistic is bigger than F of table because of that the ho hypothesis based on using the synthetic data method rejected and panel data method is used.

Table II: brief results of F-limer test for investigating the evaluating method of regression model.

<table>
<thead>
<tr>
<th>Kind of test</th>
<th>Test statistic</th>
<th>Probability</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-limer</td>
<td>8.002</td>
<td>0.000</td>
<td>Panel data method</td>
</tr>
</tbody>
</table>

In the next step Hasman test is used for selecting between fixed effects method and random effects method. Brief results of this test is shown in table III as the results of table show obtained probability quantity for this test equals 0.1449 and is more than 0.05 so the H_0 hypothesis based on using random effects method is accepted and random effects method is used in order to estimate model.

Table III: brief results of Hasman test for investigating the evaluating method of regression model.

<table>
<thead>
<tr>
<th>Kind of test</th>
<th>Test statistic</th>
<th>Probability</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hasman</td>
<td>5.3980</td>
<td>0.1449</td>
<td>Random effects method</td>
</tr>
</tbody>
</table>

After choosing evaluation method LR test is used for investigating the difference of variance. But if the random effects method is used there is no need for removing the problem of differences of variance. Brief results of estimating model by using the panel data method – random effects method has been shown in table IV.
Table IV: brief results of estimating regression model by using panel data method – random effects method

<table>
<thead>
<tr>
<th>Variable</th>
<th>Co-efficient estimation</th>
<th>Statistic T</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>FI</td>
<td>0.132444</td>
<td>4.487043</td>
<td>0.0000</td>
</tr>
<tr>
<td>FL</td>
<td>-0.044232</td>
<td>-2.826582</td>
<td>0.0049</td>
</tr>
<tr>
<td>0.0089</td>
<td>2.677184</td>
<td>0.011221</td>
<td>Size</td>
</tr>
<tr>
<td>0.0000</td>
<td>9.444101</td>
<td>0.190581</td>
<td>CFO</td>
</tr>
</tbody>
</table>

3/174105: F statistic 0.1393 : (R^2) co-efficient determination 0/1349: Balanced co-efficient determination

In this research the impact of financial leverage operating cash flow company size on dividend policy is measured by using a linear – multi variable regression model. we analyze research model and test hypothesis of research.

Co efficient determination measures percentage of total changes in independent variable whichis explained by regression model considering the table IV, it is evident that co efficient determination equals R=0/1393 that show about %14 of changes of dividend policy are explained by regression model in order to investing lack of self – correlation in the results of regression model Doorbin – Watson test is used. Measured quantity of Doorbin – Watson according to table 4 equals d=1/726. Because according to size of sample this quantity is in the range of 1/7<d<4-1/7 there is no the problem of self correction in remainders.

F test is used for investigating the total meaning fullness of model statistical hypothesizes of this test include.

H0: all the co-efficient is zero but the width the of the origin
H1: at least , one of the co-efficient is not zero but width of the origin

If the probability of F statistic is less than 0/05, H0 hypothesis would not be approved and the model is meaning for according to probability of F statistic measured in table4. Which equals 0/000 and is less than 0/05, H0 hypothesis is not accepred it means that fitted model is meaning full and at least one of the coefficient of regression model is not zero.

5-1. Testing first hypothesis

Based on the retical foundation and previous research in the field of impact of financial leverage on dividend policy , it seems that this impact is negative in other words by increasing financial leverage , companies suffer more costs of transaction for providing external finance and then in order to avoid costs and save internal financial resources , lower cash will be distributed between shareholders, according to cited cases first hypothesis is devised as financial leverage has an impaction dividend policy.

Multi variable regression model according to table I is used for analizing the data and testing hypothesizes if co-efficient of financial leverage (B_1) in regression model (1) in confidence level of 0/95 is negative and meaningful it in dicates the negative impact of financial leverage on dividend policy.

The statistic and measured probability quantity in the Error level of 0/05 are used in order to investigate the meaningfulness . by considering the result so F table 4 obtained probability quantity for financial leverage is 0/0099 which is less than 0/05 and it shows that financial leverage has impact on dividend policy also obtained co-efficient for financial leverage equals -0/044 and because this quantity is negative it indicate negative impact of financial leverage on dividend policy.

5-2. Testing second hypothesis

As it was said it seems that as the cash and liquid in a company by more , more cash will be distributed between share holder by that company. Second hypothesis of the research has investigated the impact of operating cash flow on dividend policy. If the co-efficient of operating cash flow (B_2) in regression model (1) in confidence level of 0/95 is positive and meaning full it indicates the positive impact of operating cash flow on dividend policy of
company. According to the results of table IV obtained probability for operating cash flow equals 0.0000 and because this quantity is less than 0.05 in indicates the impact of operating cash flow on dividend policy also obtained co-efficient for operating cash flow equals 0.190581 and because this quantity is positive it indicates the positive impact of operating cash flow on dividend policy.

5-3. Testing the third hypothesis
Based on the theoretical foundation of research big companies have better capital market and it is easier for them to increase cash for decreasing the costs, and it allow them to pay more dividend to share holders. These companies face more delegacy costs because of increasing complexities and in capability of share holders because of close controlling the companies activities they pay more profit (dividend) to decrease the delegacy costs because of that it seems size has an positive impact on dividend policy. 

Third hypothesis of the research has investigated the impact of size on dividend policy. 
If the co-efficient of size of company ($\beta_3$) in regression model(1) in confidence level of 0.95 is positive and meaningful it indicates the positive impact of size of company on dividend policy of company according to the results of table IV obtained probability for size of company equals 0.0089 which is less than 0.05 and it indicates that size of company has impact on dividend policy. Obtained co-efficient quantity for size of company equals 0.011221 and because it is a positive quantity it indicates the positive impact of company on dividend policy.

6. Conclusion
Asit was said recognizing the affective factors on dividend policy help company managers in making decisions about dividend pay out between share holders. In this research three affective factors on dividend policy including financial leverage operating cash flow and size of company have been investigated. on the basis of findings achieved by research and testing the hypothesis, it became evident.

That financial leverage has a negative impact on dividend policy, it means that companies with higher leverage should divide less profit between share holders. Operating cash flow has positive impact on dividend policy it means.
That by increasing the liquidity in company dividend pay out to share holders will increase. Size of company has positive impact on dividend policy. It means that bigger companies can pay more profit. all the hypothesis of this research have been approved so. Results of this research are like ones of forcing researches like musa (2009), Al-kuwari (2009) Anil and Kapoor (2008) and ling and others (2008). According to the results of testing first hypothesis which showed the positive impact of financial leverage on dividend policy we advice main share holders of companies who have affective role in dividend policy of company in anniversary of companies – to consider seriously the debt ratio of companies in other words if the debt ratio of company is high they should pay less profit also based on results of second and third hypotheses the relation between operating cash flow and size of company is approved. so we advice users of financial forms as financial analysors to consider seriously size of companies and operating cash flow in order to make decision about dividend policy.
Relation of dividend policy to indicators of business operation of companies like indicator of business surplus value can be investigated. Temporal period for doing this research was shots future researches can investigate the subject of this research in a longer period this research was done in the level of the total accepted in Tehran Stock Exchange also by distinguishing the companies, based on industry, financial leverage, operating cash flow and size of company can be investigated.
References:

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